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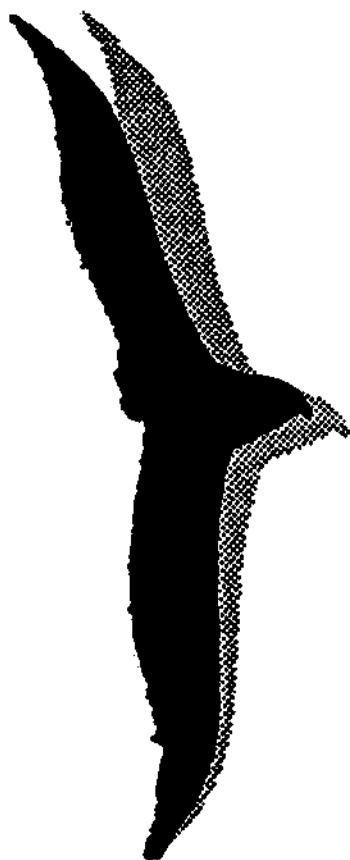
## Serie research memoranda

### Unemployment Insurance in the Netherlands, Sweden The United Kingdom and Germany

J.A. Vijlbrief

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**UNEMPLOYMENT INSURANCE IN THE NETHERLANDS,  
SWEDEN, THE UNITED KINGDOM AND GERMANY**

by  
J.A. Vijlbrief\*

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## INTRODUCTION

Most developed countries have a system, which protects workers against the financial risk of unemployment. This paper describes the unemployment insurance systems in four countries: the Netherlands, Sweden, the United Kingdom and Germany. In these four countries, the unemployment insurance system consists of 'regular' unemployment insurance and unemployment assistance. Under unemployment insurance, the eligibility for payments usually depends on the contributions, made to the scheme in a previous period. The level of benefits is often related to the previous wage rate and the duration of benefit payment is limited. Unemployment assistance complements unemployment insurance and is meant for those unemployed who are not entitled to regular benefits and who are unable to support themselves. We use the phrase 'unemployment insurance system' for both regular unemployment insurance and unemployment assistance in this paper.

Section 2 discusses the general principles of social security and unemployment insurance and briefly examines some alternatives to social security, like private insurance and a basic income system. In Section 3, on the unemployment insurance system in the Netherlands, we first describe Dutch social security in detail and give a brief history of Dutch unemployment insurance. Next, we study the current unemployment insurance system in the Netherlands, giving special attention to four characteristics of unemployment insurance: eligibility requirements, the level of unemployment benefits, the maximum duration of benefit entitlement and the financing method.

Section 4 reviews the unemployment insurance systems in Sweden, the United Kingdom and Germany. These countries were chosen as an object of study for various reasons. Sweden is just like the Netherlands a small open economy, with comparable benefit levels but much smaller unemployment than the Netherlands. Swedish 'active labour market policies' are often considered to be an example for the Dutch. The United Kingdom was chosen because the British unemployment problem resembles the Dutch situation, and in both countries unemployment insurance is sometimes blamed for the high unemployment. Unemployment insurance in Germany is studied, because the economic situation in this neighbouring country is very important for the Netherlands: large differences between the unemployment insurance systems in both countries do not seem to be possible nor probable in the long run.

Section 5 examines two important aspects of unemployment insurance in the Netherlands, Sweden, the United Kingdom and Germany. Firstly, the *coverage* of the unemployment insurance systems, i.e., the fraction of the unemployed that receives payments under unemployment insurance or assistance, is studied. Secondly, the *replacement ratio*, i.e., the ratio of benefits to wages, is examined. These two properties of the



unemployment insurance system are crucial for the protection that the system offers against the financial risk of unemployment. This section also briefly discusses the outlays on unemployment insurance in the four countries. In the final section of this paper, we shortly summarize our main findings and draw some conclusions on the 'generosity' of the unemployment insurance systems in the four countries.

## 2 UNEMPLOYMENT INSURANCE AND SOCIAL SECURITY

### 2.1 SOCIAL SECURITY: INSURANCE AND ASSISTANCE

Unemployment insurance forms a part of the social security system. Veldkamp (1984, p. 16) defines social security as: "all institutions and provisions that are directed at the securing of a certain standard of living". This broad definition of social security includes cash transfer programmes like social insurance, social assistance and housing benefits, but also the minimum wage, government's full-employment policies etc.. However, this paper uses the term social security in the more narrow sense of the already mentioned cash transfer programmes. Most important among these programmes are *social insurance* and *social assistance*.

Social insurance typically consists of two parts: insurance against the employees' risk of losing income as a consequence of sickness, disability or unemployment and insurance against more 'general risks' such as old age, the costs of medical treatment and the costs of raising children.

Social assistance usually guarantees a minimum income to people who cannot provide for their own means of living. It differs in an important way from social insurance: eligibility for social assistance often depends on current income and wealth (it is 'means-tested'). Another difference is the financing of the benefits: while social insurance is financed by contributions of employers and employees in most countries, social assistance is financed out of general revenue.

Among the cash transfer programmes of social security, social insurance for employees against the risks of disability, unemployment or sickness is closest to private insurance. The 'equivalence principle' (sometimes called the 'insurance principle') - insurance premiums depend on risk and the level of the benefit depends on the premium - is often used in employees' social insurance. The first statutory social insurance programmes against employees' risks can be found in New Zealand, against accidents in 1882, and Germany, against sickness in 1883 and accidents in 1884 (see Veldkamp, 1978, p. 59). These and the other social insurance programmes of the nineteenth century, were directed at the *professional* risk of employees. The benefits were financed by contributions, which

were related to the worker's wage, as was the level of the benefit. The name of Bismarck is connected to this kind of social insurance system. One also speaks of the 'continental system' as opposed to the 'British' or 'Beveridge' system, after Lord William Beveridge who was the designer of the British social security system after the second world-war. In the United Kingdom, there is no relation between social insurance and being an employee. The most important distinction between the British and the continental system is the absence of a connection between wage and benefit in the former: the British system typically pays flat-rate benefits. In contrast with the continental system (in which the insurance principle is used), the Beveridge system stresses the 'solidarity principle'.

Nowadays, social insurance against 'general risks', such as old age, the costs of raising children and the costs of medical treatment is usually organized along the Beveridge line, while employees' risks are often covered by a continental system. Hence, most countries have a mixed system of social insurance.

The origin of social assistance can be found in the poor laws and charity of the past. Unlike social insurance, social assistance has nothing to do with the 'equivalence principle': all people are guaranteed a minimum standard of living and benefits are financed out of general revenue. As previously mentioned, the receipt of social assistance is usually subject to a means-test.

## **2.2 ALTERNATIVES TO THE CURRENT SOCIAL SECURITY SYSTEMS**

Private insurance is often seen as an alternative for social security, especially for employees' social insurance. The case for private insurance as opposed to social insurance is made on the grounds of greater efficiency, lower administrative costs and the securing of the diversity of choice. However, Atkinson (1989, pp. 112-118) and Vijlbrief (1992) show that the case for the privatisation of social insurance is not as strong as is sometimes suggested. There are important reasons like redistribution, insurance market failures, paternalism and even administrative efficiency for state intervention in social insurance.

Negative income tax and a basic income system are other alternatives for the current social security system. Negative income tax can replace the current, quite complex systems of social security and taxation. The social security system and the tax system are to be integrated into one, in which benefits are received when income lies below a certain level and tax is paid when income rises above that level (see for an example of a negative income tax system, Douben, 1988, p. 331). The important parameters of such a system are the 'guaranteed minimum income level' (the income level at which benefit receipt changes in paying tax) and the accompanying tax rate. High levels of both may lead to a reduction in the effective supply of labour. On the other hand, if the minimum income is set to a low

level, social assistance will still be necessary for people who are not able to provide for their own means of living.

In a basic income system, the guaranteed minimum income is called a 'basic income'. Characteristic for the basic income approach is that benefits are no longer linked to a person's work status: it would no longer be necessary to determine the employment status of the recipient. This would mean a saving in the administrative costs of social security. Moreover, the basic income approach offers the opportunity to abolish the minimum wage, because the income of people in low-paying jobs would be supplemented by the basic income.

As with negative income tax, the important choice is the *level* of the basic income. The granting of a full basic income at the 'social minimum' - to provide for the necessary means of living - to every adult person, would be costly (see Pierik, 1989, for an example for the Netherlands). These high costs are primarily caused by the eligibility for benefits of new groups of people, like dependent partners etc., under a basic income scheme. However, this 'individualisation' of benefit entitlement could also be regarded as an advantage of a basic income, for example from the point of view of women's emancipation.

Next to the full basic income approach, there are proponents of a partial basic income scheme, in which every adult would be entitled to a basic income, but this basic income would be lower than the 'social minimum' (see Wetenschappelijke Raad voor het Regeringsbeleid, 1985). A partial basic income would still offer the opportunity to reduce the minimum wage and hence to increase employment, against a lower cost than the full basic income. However, as a partial basic income can not fully replace the current social security system, it will probably lead to an even more complex system of social security.

## 2.3 UNEMPLOYMENT INSURANCE

The phrase 'unemployment insurance' is somewhat misleading: in many countries the protection against the financial risk of unemployment involves social assistance too (see Table 1, for the situation in 1987). However, traditionally, the provision of income for unemployed workers was a part of social insurance, rather than social assistance. Originated as a mutual insurance by employees, it developed into an important part of the social security system in most countries (Section 3.2 studies the history of the Dutch unemployment insurance system in more detail).



**Table 1 : Institutional structure of unemployment benefit schemes applied in the OECD countries (1987)**

	Insurance-type scheme	Assistance-type scheme	Dual system
Australia		X	
Austria			X
Belgium	X		
Canada	X		
Denmark	X		
Finland			X
France			X
Germany			X
Greece			X
Iceland	X		
Ireland			X
Italy	X		
Japan	X		
Luxembourg	X		
Netherlands			X
New Zealand		X	
Norway	X		
Portugal			X
Spain			X
Sweden			X
Switzerland	X		
Turkey			
United Kingdom			X
United States	X		

Source : OECD, 1988, p. 116.

The already mentioned equivalence principle is present in most current unemployment insurance systems. Eligibility for benefits depends upon the period of employment (in which contributions were paid), the duration of the benefit entitlement is also related to the previous employment period and the level of benefits is proportional to the

pre-unemployment wage (up to a certain maximum).

Unemployment benefits are usually financed by contributions of employers and workers. The level of these contributions is related to the wage of the worker (again up to a certain maximum). In most countries, the level of contributions does not vary according to the unemployment risk, with the United States as an important exception. In this country, the employer has to pay contributions on the basis of his unemployment history. This financing system of unemployment insurance is called 'experience rated' (see Vijlbrief, 1992, for more details on this financing system).

As Table 1 shows, social assistance also provides protection against the financial risk of unemployment. These assistance schemes are based on the solidarity principle: they usually pay a flat-rate benefit, financed out of general revenue. In most cases the duration of the benefit entitlement is unlimited and the unemployed are subject to a means-test to become eligible for unemployment assistance.

### 3 UNEMPLOYMENT INSURANCE IN THE NETHERLANDS

#### 3.1 THE BACKGROUND: THE DUTCH SOCIAL SECURITY SYSTEM

The Dutch social security system distinguishes social insurance and social assistance. Social insurance includes employees' insurance and national insurance. Employees' insurance consists of provisions against the loss of income as a result of sickness ('Ziektewet'), disability ('Wet op de Arbeidsongeschiktheidsverzekering') and unemployment ('Werkloosheidswet'). Characteristic for employees' insurance is the relation between earnings and benefits. Table 2 shows the eligibility conditions, the level, the maximum duration and the financing of sickness and disability benefits (unemployment benefits are studied in Section 3.3)<sup>1</sup>. Health insurance -insurance against the costs of medical treatment- ('Ziekenfondswet'), is also part of employees' insurance. It is obligatory for employees who earn less than Dfl. 50,900 in 1990. The Dutch government is working on the transformation of employees' health insurance into a national insurance against the costs of medical treatment.

National insurance in the Netherlands consists of provisions in case of old age ('Algemene Ouderdomswet'), for the disabled ('Algemene Arbeidsongeschiktheidswet')

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<sup>1</sup> In the summer of 1991, the Dutch government announced reforms in sickness and disability insurance. These reforms include incentives for employers and employees to reduce the number of claims for sickness benefits and a proposal to make the duration of disability benefits dependent on age (see Chapter 7 for the background of these reforms).

and for widows and orphans ('Algemene Weduwen- en Wezenwet')<sup>2</sup>. National insurance also includes child benefits ('Algemene Kinderbijslagwet') and insurance against the risk of exceptional health costs, which are not covered by health insurance ('Algemene Wet Bijzondere Ziektekosten').

**Table 2 : Sickness and disability benefits in 1990**

	Sickness	Disability
<b>Eligibility</b>	all employees	all employees who are (partially, but for at least 15%) disabled, for more than one year
<b>Level</b>	70 % of daily wage* (up to a maximum of Dfl. 266), always the guaranteed minimum income	for persons who are disabled for 80 % or more, 70 % of daily wage** (up to a maximum of Dfl. 266), always the guaranteed minimum income
<b>Duration</b>	52 weeks after a waiting period of 2 days	indefinite until the age of 65
<b>Financing</b>	contributions by employers (5.90 %) and employees (1.20 %)*** of gross wage, up to a maximum daily wage of Dfl. 266	contributions by employees (12.15 %) of gross wage, above a threshold of Dfl. 92, up to a maximum daily wage of Dfl. 266

\* In most industries, sickness benefits are above 70% of daily wage. When 70% of the daily wage is less than the guaranteed minimum income, it is supplemented (see text).

\*\* People who are 'less-disabled' receive a smaller disability benefit.

\*\*\* This is an average for industries.

The levels of benefits for senior citizens, for widows and orphans and for the disabled are all related to the net minimum wage. In general, couples get a benefit of 100 percent of the net minimum wage, while single people are entitled to 90 percent of the net minimum wage when they have dependent children and to 70 percent in the absence of dependent children<sup>3</sup>. The relation between flat-rate benefits and the net minimum wage is known as the 'net-net link' ('netto-netto koppeling'). Beside the net-net link, the standard of living of benefit recipients is also legally protected by the indexation of the rise of the

<sup>2</sup> Since the end of 1988, widows and orphans insurance also applies to widowers. The Dutch government intends to reform widows and orphans insurance in 1992, making the benefit means-tested.

<sup>3</sup> National insurance disability benefits amount to a maximum of 70 percent of the minimum wage for a fully disabled person. When this benefit is lower than the guaranteed minimum income (the 'social minimum'), one is entitled to supplementary benefits.

minimum wage to the average rise of contract wages in the private sector<sup>4</sup>. Child benefits are flat-rate benefits, dependent on the number and the age of the children. The level of child benefits is linked to the cost-of-living index. Insurance against exceptional health costs covers, for example, the admission in a psychiatric hospital, nursing-home etc..

National insurance benefits are financed out of contributions of employees and self-employed, with the exception of child benefits which are paid out of general revenue. The national insurance contributions are levied, together with income tax, on gross annual income above Dfl. 4,568 up to a maximum income of Dfl. 42,123 (in 1990). The contributions rates for 1990 are: old age insurance 14.30 %, disability insurance 1.15 %, widows and orphans insurance 1.25 % and for insurance against exceptional health costs 5.40 %. Hence, characteristic for national insurance in the Netherlands is the financing by employees' contributions (proportional to income, up to a certain maximum) and the payment of flat-rate benefits. This part of Dutch social insurance is based on the principle of solidarity.

Table 3 : Public and unemployment assistance

Family situation	Benefit level
married couple (or two persons living together)	100 % of the net minimum wage (1990: Dfl. 1,588.57monthly)
single parent family	90 % of the net minimum wage (1990: Dfl. 1,429.71monthly)
single person (older than 23)*	70 % of the net minimum wage (1990: Dfl. 1,112.00monthly)
single person (sharing the house with other persons)	60 % of the net minimum wage (1990: Dfl. 944.04 monthly)

\* The Dutch government intends to reduce the benefit for schoolleavers between 21 and 27, to the level of study grants (1990 : Dfl. 783,= for people, not living with their parents).

Social assistance is the second part of the social security system in the Netherlands. It includes public assistance ('Algemene Bijstandswet'), unemployment assistance ('Rijksregeling Werkloze Werknemers'), supplementary benefits ('Toeslagenwet'), the social employment service ('Wet Sociale Werkvoorziening'), assistance to senior and partially disabled unemployed employees ('Wet Inkomensvoorziening Oudere en Gedeelt-

<sup>4</sup> The act in which this indexation is settled, was hardly applied in the eighties because of financial problems of the Dutch government. The coalition of social and christian democrats decided to restore the indexation in 1990 (see for further details, Vijlbrief and Van De Wijngaert, 1992).

elijk Arbeidsongeschikte Werkloze Werknemers', IOAW) and assistance to senior and partially disabled former self-employed ('Wet Inkomensvoorziening Oudere en Gedeeltelijk Arbeidsongeschikte Gewezen Zelfstandigen', IOAZ).

Public and unemployment assistance are meant for all Dutch people who are not able to provide for their own means of living. Public and unemployment assistance are directed at those people, who are not eligible for any other social security provision: it is 'assistance of last resort' or a 'safety net', as it is sometimes called (see De Jong *et al.*, 1990, p.5). People on public or unemployment assistance are obliged to seek a 'suitable job' (we return to this point in Section 3.3). They are paid flat-rate benefits, which are based on the net minimum wage. The level of the benefit depends on the family situation; this level is called the 'social minimum'. Table 3 shows the level of assistance benefits for different groups of people. Public and unemployment assistance are means-tested on the family level. The income-test applies to the recipient of the benefit and to his or her partner: the receipt of other benefits (for example unemployment benefits) or income from capital leads to a one-for-one reduction of assistance; 25 percent of the income from labour (up to a certain maximum) is not subtracted from assistance for a period of two years. Next to the income-test, recipients of assistance are also subject to a wealth-test: when (family-) wealth exceeds a certain maximum, one is not entitled to assistance (for owners of a house, the wealth-test is less restrictive). Public and unemployment assistance are financed out of general revenue.

Supplementary benefits are meant for people on sickness, disability or unemployment benefits, whose income lies below the guaranteed minimum income (social minimum). The social employment service provides jobs for people who are physically or mentally handicapped or who are, for some other reason, unable to work in a normal job. Working in a job of the social employment service is voluntary. The social employment service is administered by local authorities. Finally, assistance for senior and partially disabled unemployed employees and assistance for senior and partially disabled former self-employed are discussed in Section 3.3 on unemployment insurance.

The organisation of social security in the Netherlands is shown in Table 4. Employees' benefits, (national) disability benefits and supplementary benefits are administered by 23 industrial associations, managed by employers and employees. The contribution rates for unemployment and disability insurance are determined by the Minister of Social Affairs and Employment. Proposals for these contribution rates are made by the unemployment fund ('Algemeen Werkloosheidsfonds') and by the disability funds ('Algemene Arbeidsongeschiktheidsfonds' and the 'Arbeidsongeschiktheidsfonds'). These funds are managed by employers, employees and representatives of the government.

**Table 4 : The organisation of social security in the Netherlands**

		Arrangement	Administra- tion	Supervision
SOCIAL INSURANCE	Employees' Insurance	Unemployment Insurance	Industrial Associations	Social Security Council
		Sickness Insurance		
		Disability Insurance		
	National Insurance	Health Insurance	Health Insurance Funds	Health Insurance Council
		Exceptional Health Costs Insurance	Social Security Institute	Social Security Council
		Child Benefits		
		Old Age Pensions		
		Widows and Orphans Insurance		
	Disability Insurance	Industrial Associations	Social Security Council	
SOCIAL ASSISTANCE	Public/Unem- ployment Assist- ance	Local Authorities	Minister of Social Affairs and Employ- ment	
	Social Employ- ment Service			
	IOAW/IOAZ			
	Supplementary Benefits	Industrial Associations	Social Security Council	

The contribution rate for sickness insurance is determined by the industrial associations themselves. Supervision on the correct administration of the above mentioned benefits is exercised by the Social Security Council ('Sociale Verzekeringsraad'), composed of representatives of employers, employees and the government.

Old age pensions, benefits for widows and orphans and child benefits are administered by the Social Security Institute ('Sociale Verzekeringsbank') and the Labour

Boards<sup>5</sup>. The Social Security Institute also advises the Minister of Social Affairs and Employment on the contribution rates for old age pensions and widows and orphans insurance. Health insurance and insurance against exceptional health costs are administered by the health insurance funds ('Ziekenfondsen'). These funds also advise the Minister of Social Affairs and Employment and the Minister of Welfare, Public Health and Culture on the contribution rates for both insurances. Supervision on the health insurance funds is exercised by the Health Insurance Board ('Ziekenfondsraad'), in which employers and employees are represented. Finally, social assistance (except supplementary benefits) is administered by local authorities under the supervision of the Minister of Social Affairs and Employment.

### 3.2 THE HISTORY OF DUTCH UNEMPLOYMENT INSURANCE

Unemployment insurance in the Netherlands originated in the second half of the nineteenth century with the mutual unemployment insurance of trade union members. Members of trade unions had to pay contributions to an unemployment fund ('werklozenkas') to finance benefits for unemployed members. Local authorities subsidized these funds, which was adopted by the central government during the first world-war ('Noodregeling Treub', 1914 and 'Wachtgeldbesluit', 1917). Beside the subsidization of the unemployment funds, local authorities had started their own unemployment assistance, mainly because the coverage of the unemployment funds was very small. In the 1930s, the influence of the central government on local unemployment assistance increased, as the government paid the greater part of it. After the first world-war, employers had started to make arrangements for payments to employees on temporary layoff, the 'unemployment pay arrangements' ('wachtgeldregelingen'). These arrangements were also subsidized by the central government.

The unemployment pay arrangements, as well as the local unemployment assistance still existed after the second world-war, while the unemployment funds had disappeared. Post-war social security in the Netherlands was influenced by the report of the 'Van Rhijn-committee', that was written during the war in London. According to this report, the Dutch social security system, which was mainly organised along the Bismarck line, had to be (partially) reformed in the direction of the Beveridge system. Social insurance, more or less based on the equivalence principle, had to be complemented by social security, which was meant for all people, not just employees.

<sup>5</sup> These Labour Boards were independent regional institutions until april 1988, when the Labour Boards became agencies of the Social Security Institute.

In the Netherlands, *statutory* unemployment insurance for all employees in the private sector was introduced with the Unemployment Insurance Act ('Werkloosheidswet') of 1949, which came into effect in 1952. According to this act, Dutch unemployment insurance consisted of two parts: the unemployment pay arrangements and the actual unemployment insurance. Unemployment pay was meant for employees who were closely related to a certain industry (in the sense of work record). Contributions for unemployment pay were paid in full by the employers and employees of the industry. The maximum duration of unemployment pay was forty days. Unemployment insurance benefits were paid to employees who were not eligible (anymore) for unemployment pay. Unemployment benefits were financed by employers, employees and the central government. The maximum duration of unemployment benefit entitlement was 130 days (of which forty days of unemployment pay for the eligible employees). The level of unemployment pay and unemployment benefits was related to the pre-unemployment wage of the recipient (up to a certain maximum): until 1985 this was 80 percent of the pre-unemployment wage, afterwards 70 percent.

Local unemployment assistance continued to exist until 1965, when it was replaced by two arrangements: the Unemployment Provision Act ('Wet Werkloosheidsvoorziening') and the Unemployment Arrangement ('Rijksgroepsregeling Werkloze Werknemers'). The Unemployment Provision Act was introduced to prevent unemployed workers from entering public assistance too quickly. Originally, the maximum duration of unemployment provision was two years. In the eighties, the maximum duration was differentiated according to age and work record. The level of unemployment provision benefits was related to the pre-unemployment wage of the recipient (up to a maximum). In 1986, the benefit was 70 percent of the pre-unemployment wage.

The Unemployment Arrangement is a part of public assistance ('Algemene Bijstandswet'), introduced in 1965 (see Section 3.1). As unemployment assistance continued to exist unchanged after the major reform of unemployment insurance in the Netherlands in 1987, we will give no further attention to this subject here.

### 3.3 THE CURRENT UNEMPLOYMENT INSURANCE SYSTEM

In 1987, unemployment insurance in the Netherlands was drastically reformed, with the introduction of the New Unemployment Insurance Act. 'Normal' unemployment benefits and unemployment provision were integrated and the maximum duration of unemployment benefits became dependent on the work record of the unemployed person. Next to unemployment insurance, the risk of losing income as a consequence of unemployment is covered by unemployment assistance, supplementary benefits and the assistance to senior



and partially disabled unemployed employees and former self-employed. In this section, as in the next section on unemployment insurance in Sweden, the United Kingdom and Germany, we look at four characteristics of the unemployment insurance system: eligibility conditions for benefits, the level of unemployment benefits, the maximum duration of benefit entitlement and the financing method of the system. Table 5 gives a summary of these four properties of the Dutch unemployment insurance system.

**Table 5 : The Dutch unemployment insurance system**

<b>Eligibility</b>	employees who lose at least five hours of work or half their working time and who worked for at least 26 weeks in the year preceding unemployment
<b>Level of benefit</b>	70 % of daily wage up to a maximum of Dfl. 266 (1990) or 70 % of the minimum wage (follow-up benefits); always the guaranteed minimum income; unemployment benefits are taxed
<b>Maximum duration</b>	6 months base period, supplied with 6 to 54 months of extended benefit, duration depends on work record; another year of follow-up benefit of which the level is 70 % of the minimum wage
<b>Financing</b>	employees' (1990: 0.51 % + 0.65 %) and employers' (0.51 % + 1.45 %) contributions of gross wages*, up to a maximum daily wage of Dfl. 266

\* the contribution rates consist of unemployment pay contributions (0.51 %, an average of industries) and unemployment insurance contributions (0.65 % and 1.45 %)

Only private sector employees are eligible for unemployment insurance. Civil servants have their own protection against the loss of income as a consequence of unemployment. However, the Dutch government intends to integrate the unemployment insurance systems of employees and civil servants. To be (fully) eligible for unemployment benefits, an unemployed worker has to meet the following additional requirements (next to those mentioned in Table 5):

- he or she has to be involuntarily unemployed;
- he or she has to register at the employment office;

- he or she has to apply for and accept a 'suitable' job<sup>6</sup>;
- he or she has to cooperate in educational programmes.

If one does not comply with these eligibility conditions, benefits can be (partially) refused, either temporarily or even permanently. Moreover, the administration of unemployment insurance (the industrial associations) can reduce the maximum duration of benefits as a penalty.

The level of the unemployment benefit is, as shown in Table 5, related to the pre-unemployment daily wage, up to a maximum daily wage. However, if unemployment benefit falls short of the social minimum, income is supplemented. When dealing with social assistance to the unemployed (of which supplementary benefits are a part), we return to this issue. Follow-up benefits are flat-rate benefits at the level of 70 percent of the minimum wage.

After a base period of six months of benefit entitlement, the maximum duration of unemployment benefits depends on the work record<sup>7</sup>. To be entitled to extended unemployment benefit, one has to meet the 'three-out-of-five requirement': in the five years before unemployment, the unemployed person must have had a job for at least three years. Periods in which one had to take care of young children during the five years preceding unemployment, are (partially) counted as periods of employment. This also applies to periods in which there was full entitlement to disability or sickness benefits. Employees who are entitled to a (partial) disability benefit, immediately preceding or on their first unemployment day, do not have to meet the three-out-of-five requirement. The maximum duration of extended benefits depends on the work record of the unemployed person, which is calculated as the employment period of the last five years (the 'actual' work record) plus the 'fictive' work record (age minus 23 years). Table 6 shows how the maximum duration of extended benefits is related to this calculated work record. After the exhaustion of extended unemployment benefit (or if one satisfies the three-out-of-five requirement, but the work record is insufficient for extended benefits), an unemployed person is entitled to one year of follow-up benefit. When an unemployed worker is at least 57½ years old at his or her first unemployment day, entitlement for follow-up benefits may continue until 65.

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<sup>6</sup> The definition of a suitable job is "a job that is in agreement with the abilities of the unemployed person, unless accepting the job is impossible because of physical, mental or social impediments" (Riphagen, 1989, p. 140).

<sup>7</sup> In fact, the base period of six months still consists of eight weeks of unemployment pay and eighteen weeks of unemployment insurance benefit. However, this distinction is only administrative.

**Table 6 : The duration of extended unemployment benefits**

Work record	Maximum duration of benefits
5 years of more	3 months
10 years or more	6 months
15 years of more	1 year
20 years of more	1.5 year
25 years of more	2 years
30 years or more	2.5 years
35 years of more	3.5 years
40 years or more	4.5 years

Unemployment benefits are financed by employees' and employers' contributions, levied on gross wages up to a maximum daily wage of Dfl. 266 (in 1990). As shown in Table 5, the contribution rate for unemployment pay is 0.51 percent for workers and employers in 1990. This contribution rate is determined by the industrial associations. The contribution rates for unemployment insurance are determined by the Minister of Social Affairs and Employment (after a proposal by the unemployment fund). In 1990, the contribution rate for employees is 0.65 percent and for employers 1.45 percent.

In the Netherlands, social assistance for unemployed people includes supplementary benefits, unemployment assistance and the special arrangements for senior and partially disabled unemployed employees and former self-employed. Persons who receive unemployment benefits, but whose income is below the social minimum, are entitled to supplementary benefits, which supplements their income to the social minimum<sup>8</sup>.

Earlier (in Section 3.1), we discussed unemployment assistance as a part of public assistance. Here, we only study some details of unemployment assistance. People, between 18 and 65 years old, are eligible for unemployment assistance, if they are willing to work for at least half the normal working time. As mentioned in Section 3.1, unemployment assistance is income- and wealth-tested. The level of benefits for different groups of people, is shown in Table 3. Schoolleavers under the age of 21 are not entitled to unemployment assistance, but are offered a job or schooling instead. After six months of unemployment, the Dutch government also guarantees a job or education to schoolleavers between 21 and 26, and to unemployed youngsters (under 21). The Dutch government has also started special programmes for long-term unemployed, such as a restart programme ('heroriënteringsgesprekken') and 'job-pools' for persons who do not have much chance on

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<sup>8</sup> The same applies to people on sickness or disability benefits.

the regular labour market (see Ministerie van Sociale Zaken en Werkgelegenheid, 1991, pp. 45-62, for a review of Dutch active labour market policies).

Assistance to senior and partially disabled unemployed employees is meant for unemployed employees who were older than fifty at the beginning of their unemployment spell and who have exhausted their benefit entitlement, and for partially disabled employees, who are not (or no longer) entitled to unemployment benefits. The level of benefits is equal to public and unemployment assistance (see Table 3). People on assistance to senior and partially disabled unemployed employees are obliged to seek a suitable job (except those people who are older than 57½). Most important difference between this special arrangement and public or unemployment assistance is the absence of a wealth-test under this arrangement. However, recipients of benefits under assistance to older and partially disabled unemployed employees are still subject to an income-test at the family level. Assistance to senior and partially disabled former self-employed is a similar arrangement for former self-employed.

## 4 UNEMPLOYMENT INSURANCE IN SWEDEN, THE UNITED KINGDOM AND GERMANY

### 4.1 UNEMPLOYMENT INSURANCE IN SWEDEN

The Swedish unemployment insurance system consists of regular unemployment insurance and unemployment assistance.

*Unemployment insurance* is closely tied to trade unions: although membership of an unemployment insurance fund is, in principle, voluntary, it is compulsory for trade union members. Table 7 reviews four characteristics -eligibility requirements, the level of benefit, the maximum duration and the financing method- of Swedish unemployment insurance.

Next to the requirements, mentioned in Table 7, a worker has to meet other demands to be eligible for unemployment insurance. He or she must have worked for at least 17 hours per week, must be involuntarily unemployed, has to register as a job seeker at the employment office and a suitable job has to be accepted. Educational programmes and temporary jobs, offered by the Labour Market Board, are sometimes regarded as a suitable job. When a worker refuses to accept a suitable job, benefits can be denied for a certain period. Until 1989, there was a five days waiting period to become eligible for unemployment insurance benefits in Sweden.

The unemployment insurance funds choose from a range of permissible benefit

levels, proposed by the Swedish government. According to Björklund and Holmlund (1989, p. 166), the funds typically choose the maximum permissible benefit level. Unemployment benefits are taxed since 1974.

**Table 7 : Unemployment insurance in Sweden**

<b>Eligibility</b>	worker must have paid contributions for at least one year to unemployment insurance fund; he or she must have worked for five out of the twelve months preceding unemployment
<b>Level of benefit</b>	flat-rate payments of $\pm 80\%$ of the average wage of the sector in question; no more than 90 % of the previous wage; benefits are taxed
<b>Maximum duration</b>	under the age of 55: 60 weeks; over the age of 55: 90 weeks
<b>Financing</b>	$\pm 90\%$ of the expenses is financed by government subsidies

In 1974, the maximum duration of benefit entitlement was extended to the levels mentioned in Table 7. Before 1974, workers under 55 were entitled to only 30 weeks of unemployment benefit and the maximum duration of 90 weeks only applied to unemployed over the age of 60.

Originally, Swedish unemployment insurance was mainly financed by the members of the unemployment insurance fund, but the government's share of expenses has increased substantially. In the eighties, approximately 90 percent of the expenses are covered by the government. Since 1989, government subsidies cover 100 percent of unemployment insurance benefits, while members' premiums are used to finance administrative costs. The government subsidies are partly financed by a special payroll tax that covers 65 percent of these subsidies, while the remainder is financed by general revenue.

*Unemployment assistance* ('Kontant Arbetsmarknadsstöd') was introduced in 1974. As it is the case in the Netherlands, Swedish unemployment assistance is meant for unemployed persons who are not eligible for unemployment benefits (especially new entrants on the labour market). Either a work or a schooling requirement must be fulfilled: five months of work within the last twelve months, twelve months of full time studies above the compulsory level, or five months in labour market training. Schoolleavers face a waiting period of three months, before they become entitled to unemployment assistance. Since 1985, the minimum age to qualify for unemployment assistance benefits is 20. Under that age, unemployment assistance is replaced by a job or schooling guarantee.

Swedish unemployment assistance pays flat-rate benefits, which are subject to taxation. During the period 1974-1985, the level of benefits under unemployment assistance on average amounts to 30 percent of unemployment insurance benefits (Björklund and Holmlund, 1989, p. 169). The recipients of unemployment assistance are *not* subject to a means-test in Sweden.

The duration of unemployment assistance benefits is again differentiated according to age: unemployed workers under 55 are entitled to a maximum duration of thirty weeks, workers between 55 and 60 are entitled to sixty weeks of assistance and workers over the age of 60 to ninety weeks. Unemployment assistance is financed out of general revenue.

Swedish unemployment insurance and assistance are further supplemented by special arrangements for early retirement for labour market reasons, and severance payments for persons above 40 years of age (see Björklund and Holmlund, 1991, pp. 118-121). A final remark concerns the famous Swedish *active labour market policies*. These policies, extensively described by Björklund and Holmlund (1991, pp. 135-137), include efficiently working employment offices, that give free services (such as the coverage of travelling costs) to the unemployed. The unemployed are also offered retraining courses and mobility grants, which cover the costs of moving to another place for a job. Besides, at the end of the benefit period, unemployment insurance recipients are entitled to a temporary job of about five or six months<sup>9</sup>. Note that this also means that, if no regular job is found in this period, the unemployed person qualifies for unemployment insurance benefits again. Finally, participation in training programmes is counted as work and can also make a person eligible for unemployment benefits.

#### 4.2 UNEMPLOYMENT INSURANCE IN THE UNITED KINGDOM

The unemployment insurance system in the United Kingdom consists of regular unemployment insurance and unemployment assistance ('Income Support', before april 1988: 'Supplementary Benefits'). This 'dual-tier structure' of British unemployment insurance was established in 1934, with the Unemployment Act.

The main properties of current *unemployment insurance* in the United Kingdom are reviewed in Table 8. Besides the conditions mentioned in this table, the unemployed worker has to be capable of and available for work, and has to be involuntarily unem-

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<sup>9</sup> According to Björklund and Holmlund (1991, p. 136), the number of persons in such temporary job programmes varied cyclically between 0.5 and 1.5 percent of the labour force during the 1970s and 1980s.

ployed to be eligible for benefits. Since 1989, benefit claimants cannot refuse a job because the wage level is lower than in their previous job after 13 weeks of unemployment. Additionally, claimants should demonstrate that they are actively seeking work on a week-by-week basis (see OECD, 1991, p. 212). An unemployed worker must wait three days before he or she becomes entitled to unemployment benefits.

Unemployment benefits in the United Kingdom are flat-rate benefits, which contain a payment for the unemployed individual plus an increase for a dependent partner. The allowance in unemployment insurance for dependent children has been abolished in 1984. Between 1966 and 1982, British unemployment insurance also knew an 'earnings related supplement' (ERS), based on a worker's average covered earnings during a base year. It was payable during the third and twenty-eighth week of an unemployment spell covered by basic unemployment benefit. Burtless (1987, p. 120) shows that the abolition of ERS had a substantial effect on the replacement ratio during the first year of unemployment. In principle, the level of unemployment benefits is linked to the price index in the United Kingdom. However, since 1986, this indexation depends on a decision by the Secretary of State.

A final remark on unemployment benefit in the United Kingdom concerns temporary unemployment: British employers have to pay allowances for the first five days of temporary unemployment.

**Table 8 : Unemployment insurance in the United Kingdom**

<b>Eligibility</b>	in the last tax year, contributions must have been paid on earnings of at least 50 times the weekly 'lower earnings limit' <sup>*</sup> (about 11 weeks of employment at average wage)
<b>Level of benefit</b>	flat-rate, taxable benefit
<b>Maximum duration</b>	52 weeks
<b>Financing</b>	unemployment benefits are financed by employers' and employees' national insurance contributions

<sup>\*</sup> the weekly 'lower earnings limit' is the income level at which employees start to pay national insurance contributions

*Unemployment assistance* in the United Kingdom is not a separate programme for assistance to the unemployed, but a part of social assistance ('Income Support'), which is supposed to act as a 'safety net'. This situation in the United Kingdom resembles the Dutch organisation of social assistance, in which unemployment assistance is also part of

public assistance and intended to act as 'assistance of last resort'. British unemployment assistance offers benefits to unemployed persons, whose family income falls short of a certain level. Hence, unemployment assistance is income-tested on the family level: spouse's earnings, income from capital (above a maximum), unemployment and child benefits are all part of the income-test. Moreover, people with capital in excess of a certain maximum (since 1988: £ 6000) are not entitled to income support. The unemployed on assistance are obliged to seek a job. Sixteen- and seventeen-year-olds are not automatically entitled to unemployment assistance, but instead they are offered a place on the 'Youth Training Scheme'.

The level of benefits under unemployment assistance in the United Kingdom, depends on age, marital status and the presence of children. For special groups, like single parents, there are premia. Unemployment assistance is subject to taxation. The maximum duration of Income Support is unlimited. Unemployment assistance is financed out of general revenue.

#### 4.3 UNEMPLOYMENT INSURANCE IN GERMANY

In Germany, protection against the loss of income as a result of unemployment, includes three programmes: unemployment insurance ('Arbeitslosengeld'), unemployment assistance ('Arbeitslosenhilfe') and public assistance ('Sozialhilfe')<sup>10</sup>.

In Table 9 we review four important characteristics of German unemployment insurance. In 1981, eligibility conditions for unemployment benefits were tightened; previously, an unemployed person was required to have made contributions for at least six months during the three-year period before registration as unemployed. Next to the eligibility condition, mentioned in Table 9, unemployed workers have to be involuntarily unemployed, must have registered at the employment office and must have applied for benefits, to be entitled to unemployment insurance in Germany.

The statutory replacement rate of unemployment benefits is 63 percent of net earnings for employees without children since 1984. Before that year, unemployment benefits were 68 percent of previous net earnings. Previous net earnings are calculated as the average hourly wage for the last 20 days, net of social security contributions and income tax corresponding to the wage bracket and family circumstances.

German unemployment insurance links the maximum duration of the benefit

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<sup>10</sup> This section studies the German unemployment insurance system of 1989/1990. Hence, it is in fact concerned with unemployment insurance in West Germany, before the unification.



entitlement to the contribution record of the unemployed person. The ratio of one month's benefits for two month's insured unemployment was restored in 1987. Between 1983 and 1987, the German government had tried to make savings by setting this ratio to one month of benefits for *three* months of contributions. Persons, who are at least 42 years old, are entitled to unemployment benefits for more than one year, when they have been in insured employment for more than 24 months during the seven previous years. Persons between 44 and 49 years of age are entitled to 24 months of unemployment insurance, while people above 54 have a maximum duration of benefits of 32 months.

**Table 9 : Unemployment insurance in Germany**

<b>Eligibility</b>	an unemployed employee is required to have made unemployment insurance contributions for at least twelve months during the three-year period before registration as unemployed
<b>Level of benefits</b>	unemployment benefit is 63 % of previous <i>net</i> earnings, up to a maximum of 1.7 times the average net earnings
<b>Maximum duration</b>	maximum duration of benefit entitlement is linked to the contribution period of the unemployed person: (since 1987) one month of entitlement for two months of insured employment; maximum duration for people under 42 is one year
<b>Financing</b>	employers and employees pay unemployment insurance contributions at the same rate, as a payroll tax

To be eligible for *unemployment assistance*, the unemployed must have worked for five months in the year, preceding registration as unemployed. Note that, unlike the situation in the Netherlands, there is a contribution requirement for unemployment assistance in Germany. The receipt of unemployment assistance is subject to a means-test. The benefit under unemployment assistance is based on the previous net earnings of the unemployed worker. Unemployed workers receive 56 percent of their previous wage, net of social security contributions and income tax, up to maximum net earnings of 1.7 times average net earnings. Unemployment assistance is granted without any time limit. It is financed out of general revenue.

As an unemployed person must have a work record, to be eligible for unemployment assistance in Germany, some of them (especially new entrants, see OECD, 1991, p. 224) will depend on *public assistance*. German public assistance is means-tested and requires the willingness to work. The benefits are flat-rate payments, up to 'levels of need'.

Public assistance is administered by local authorities, according to national guidelines.

## 5 SOME QUANTITATIVE INFORMATION ON UNEMPLOYMENT INSURANCE

### 5.1 INTRODUCTION

Until now, we mainly discussed the institutional aspects of unemployment insurance. The arrangements in four countries for people who lose their income as a result of unemployment were studied. In this section, we examine some empirical aspects of unemployment insurance. First, the 'coverage' of the unemployment insurance system is studied: which fraction of the population of unemployed is covered by unemployment insurance or assistance, and how have the relative shares of insurance and assistance varied over time? A second point of attention is the replacement ratio. Information about the replacement ratio is especially important, as this is a crucial variable when studying the disincentive effect of unemployment benefits on labour supply (see Vijlbrief, 1992). The replacement ratio will turn out to be a concept which is difficult to define and compute. Finally, we review the expenditures on unemployment insurance in these countries.

### 5.2 COVERAGE

It is common to measure the protection offered by unemployment insurance systems, not only by looking at the level of benefits, but also by taking the fraction of the unemployed covered by unemployment insurance into account. If the replacement ratio is 90 percent, but the coverage of unemployment insurance is only 10 percent, the system will not give more average protection against the financial consequences of unemployment, than one that offers only 50 percent replacement of previous wages, but that covers 90 percent of the unemployed. Figure 1 shows the combination of replacement ratios and coverage for a number of countries of the European Community. This section focuses on the coverage of the unemployment insurance systems in the Netherlands, Sweden, the United Kingdom and Germany. Besides, we look at the relative shares of unemployment insurance and assistance.

The coverage of the unemployment insurance system in the *Netherlands* is shown in Figure 2. Total coverage is defined as the number of unemployed receiving an unemployment insurance or assistance benefit, divided by the total number of unemployed. Hence, the total coverage can be split in the coverage by unemployment insurance and the

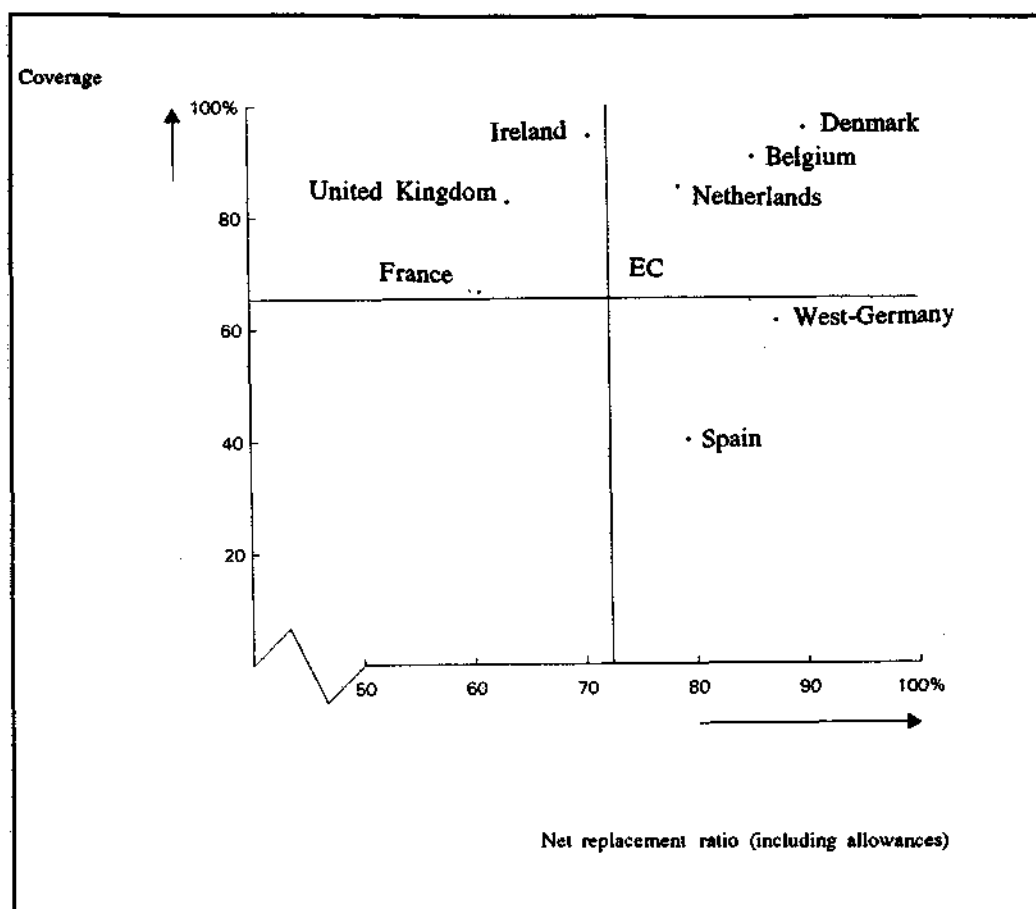


Figure 1 : Protection by unemployment insurance systems in a number of countries, 1987  
Source : Ministerie van Sociale Zaken en Werkgelegenheid, 1989, p. 132.

coverage by unemployment assistance. The proportion of the unemployed, either receiving an unemployment insurance or assistance benefit, has risen from approximately 70 percent in the seventies, to above 90 percent in 1988.

However, the fraction of unemployed people, who are not eligible (anymore) for unemployment insurance, has risen during the eighties. This could be a result of the fact that the Dutch government shortened the maximum duration for unemployment provision benefits in the eighties. The main reason, however, is the lengthening of unemployment durations in the Netherlands. The average duration of an unemployment spell in the Netherlands increased from 5.0 months in 1980 to 9.9 months in 1987 (see Van Ours, 1991, p. 375). More and more people exhausted their unemployment insurance entitlement and had to apply for assistance, which is reflected by the growing proportion of the unemployed covered by assistance (see also OECD, 1988, p. 125). The already mentioned rise of total coverage in the Netherlands may be explained by the fact that more unemployed people qualified for unemployment assistance in the eighties. This may indicate that a larger proportion of the applicants for assistance actually met the requirements of the

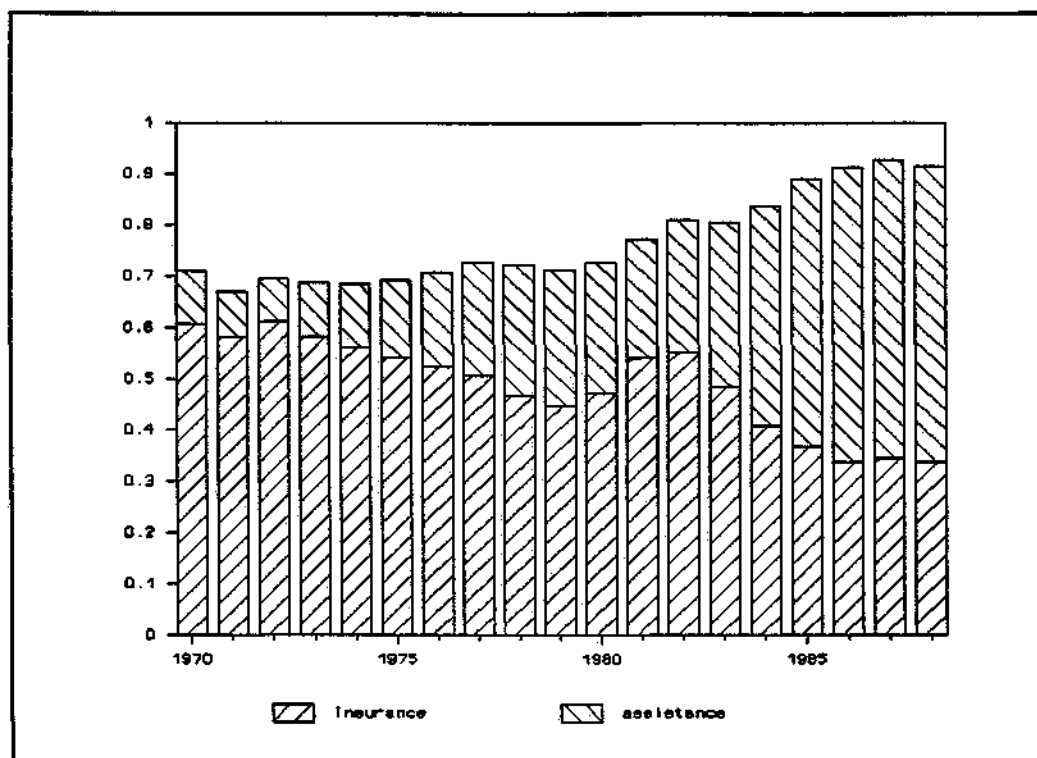


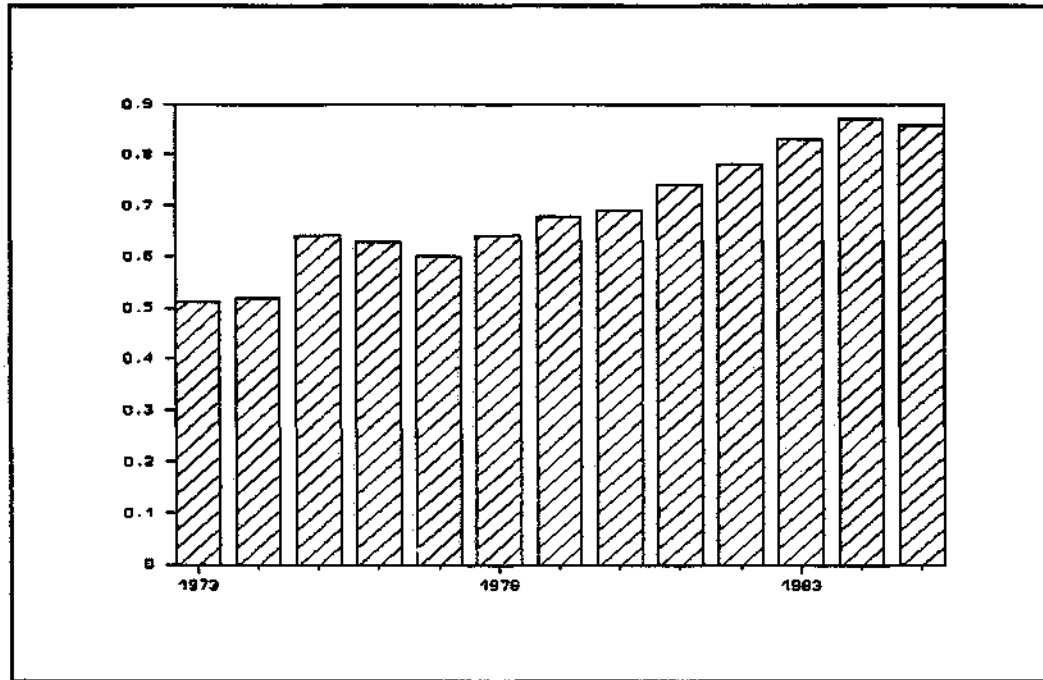
Figure 2 : Coverage of unemployment insurance and assistance in the Netherlands, 1970-1988

Data sources : Centraal Bureau voor de Statistiek and Centraal Planbureau, 1989.

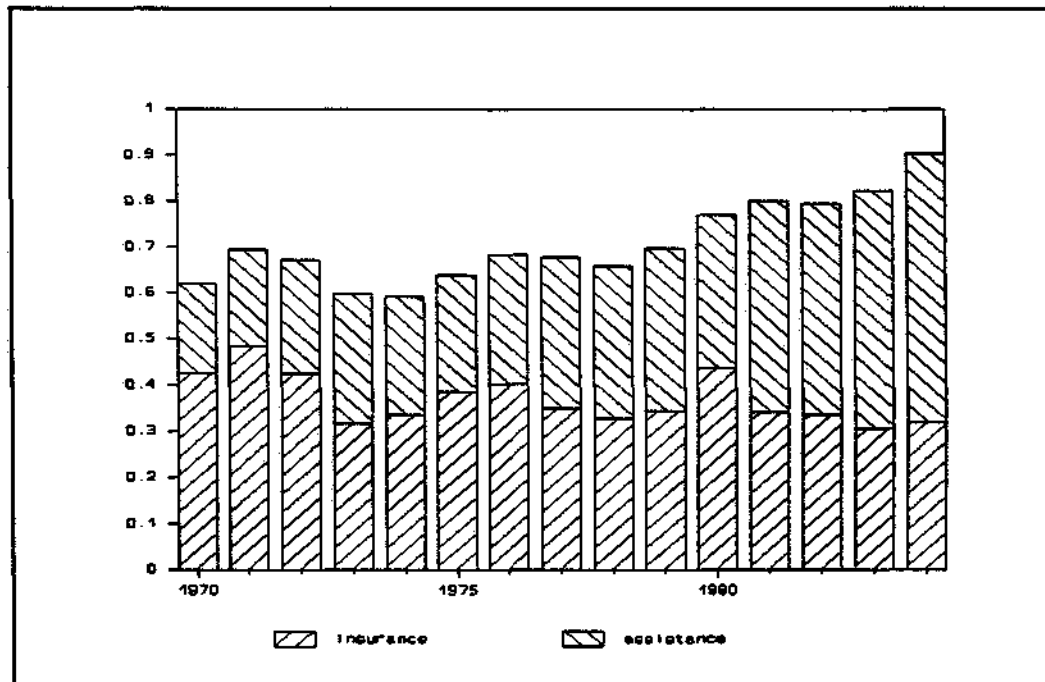
means-test, or that, as long-term unemployment has become widespread in the Netherlands during the eighties, the stigma of living on assistance has been partially removed.

As Figure 3 shows, the coverage of unemployment insurance and assistance in Sweden rose from 51 to 86 percent between 1973 and 1985<sup>11</sup>. This growth in overall coverage is the result of an increase in the membership of the unemployment insurance funds and the introduction of unemployment assistance in 1974. The coverage by unemployment insurance increased from 47 percent in 1973 to 68 percent in 1985. The take-up of unemployment assistance has also risen considerably in the same period. Björklund and Holmlund (1989, p. 169) observe that the share of unemployed workers without insurance or assistance falls with age in Sweden and that the short-term unemployed are more likely to lack benefits or assistance than those who have been unemployed for a longer time.

<sup>11</sup> Björklund and Holmlund (1991, pp. 122-126) note the same rising trend in Swedish unemployment compensation coverage. However, their estimate of the coverage during the eighties is substantially smaller than the one mentioned in the text, which is calculated by Burtless, 1987, p. 134. For example, Björklund and Holmlund find a coverage of 70 percent in 1985, while Burtless calculates that 86 percent of the Swedish unemployed receive compensation.



**Figure 3 : The overall coverage of unemployment insurance in Sweden, 1973-1985**  
 Data source : Burtless, 1987, p. 134.



**Figure 4 : Coverage of unemployment insurance and assistance in the United Kingdom, 1970-1984**

Data source : Burtless, 1987, p. 122.

Since 1970, the share of the unemployed receiving unemployment compensation (insurance or assistance) has increased markedly in the *United Kingdom*. Figure 4 shows

that the fraction of the unemployed, receiving either unemployment insurance or unemployment assistance benefits has risen from 56 percent in 1967 to 90 percent in 1984. As it is the case for the Netherlands, the increase in the combined coverage of unemployment insurance and unemployment assistance is caused by a sharp rise in the coverage of assistance. The tightening of eligibility conditions (in the eighties), the growing fraction in unemployment of new entrants on the labour market, and the longer durations of unemployment led to a falling proportion of persons on unemployment insurance in the United Kingdom. On the other hand, more and more unemployed have become entitled to unemployment assistance.

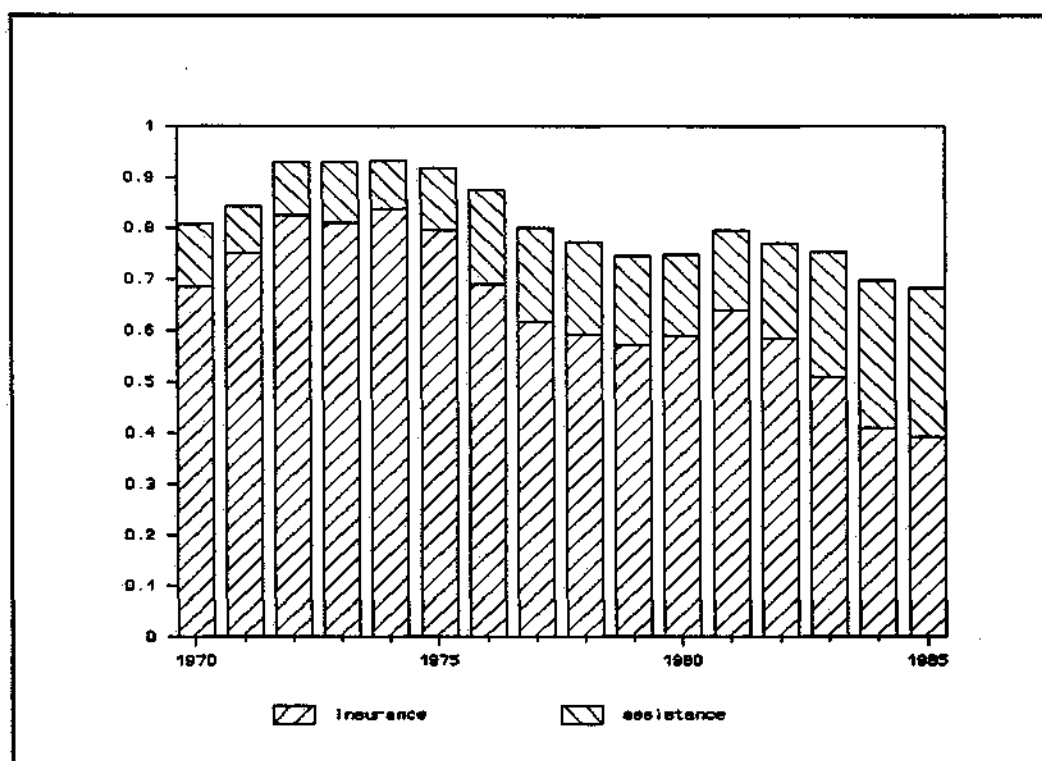


Figure 5 : Coverage of unemployment insurance and assistance in West Germany, 1970-1985

Data source : Burtless, 1987, p. 130.

In Figure 5, the developments between 1970 and 1985 in the coverage of unemployment insurance and assistance in Germany are shown. Germany is the only of the four countries in which the coverage has actually fallen since the beginning of the seventies. Due to tightened eligibility conditions, the shortened maximum durations of German unemployment benefits, and the increase in the duration of unemployment, the coverage of unemployment insurance has been reduced. However, unlike the situation in the Netherlands and the United Kingdom, there was no large increase in the coverage of unemployment assistance in Germany. This could be the result of not so many unemployed

people meeting the requirements of the means-test of unemployment assistance, but we should also keep in mind that eligibility conditions for unemployment assistance are more strict in Germany (a contribution record, see Section 4.3). Some of the unemployed (especially young adults), not entitled to any unemployment compensation, will be covered by German public assistance (which is not reflected in Figure 5).

### 5.3 REPLACEMENT RATIOS

The ratio between the unemployment benefit and earnings when employed, is known as the replacement ratio. There are several ways to define and calculate replacement ratios. In the first place, we distinguish the *statutory replacement ratio* of the unemployment insurance system, which indicates the relation between the unemployment benefit and the past wage (except when unemployment insurance pays flat-rate benefits, like the Swedish or British system).

In the second place, one can also distinguish the *actual ratio* of unemployment benefits to wages. These actual replacement ratios can be calculated economy-wide (*macroeconomic*) or for a specific group of unemployed (*microeconomic*). In most cases, macroeconomic replacement ratios show the average unemployment benefit per recipient or unemployed person, relative to the average wage per employee. The macroeconomic replacement ratio can be used when studying and comparing the 'generosity' of unemployment insurance systems. Microeconomic replacement ratios are typically calculated for wage earners at different earnings levels, and for various durations of unemployment. In most cases, these replacement ratios are hypothetical, as information on actual benefit receipt of different groups is rare. Microeconomic replacement ratios are especially relevant when investigating the disincentive effect of unemployment benefits on labour supply.

A further distinction which can be made, when comparing actual replacement ratios, is the difference between the *gross* and the *net* replacement ratio. One can compare the gross income, in and out of work, or adjust the wage and unemployment benefit for income taxes and social security contributions. The net replacement ratio gives more precise information about the disincentives for labour supply. In the remainder of this section, we review calculations of the replacement ratio for the countries under study.

Figure 6 shows two time-series of macroeconomic replacement ratios for the *Netherlands*. The series of Chan-Lee *et al.* (1987, p. 128) is calculated as the "standard national accounts unemployment compensation payments/number of unemployed divided by compensation in manufacturing/number of production workers in manufacturing". Our own measure of the macroeconomic replacement ratio is defined as the average unemploy-

ment insurance benefit per benefit-year, divided by the average weekly earnings of a male manufacturing worker times 52. Both measures are gross replacement ratios. The difference between the two series can be explained by the fact that Chan-Lee *et al.* use all unemployment compensation payments, which also include the lower assistance benefits, and that they calculate the benefit per unemployed worker instead of per benefit-year (or recipient).

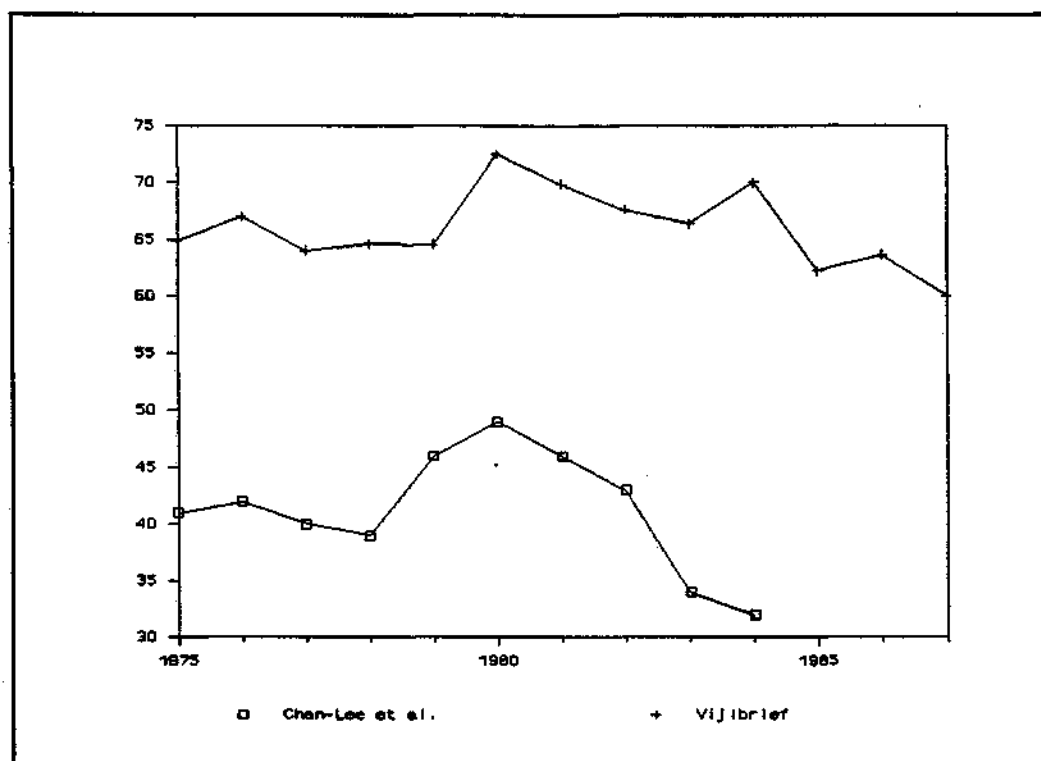
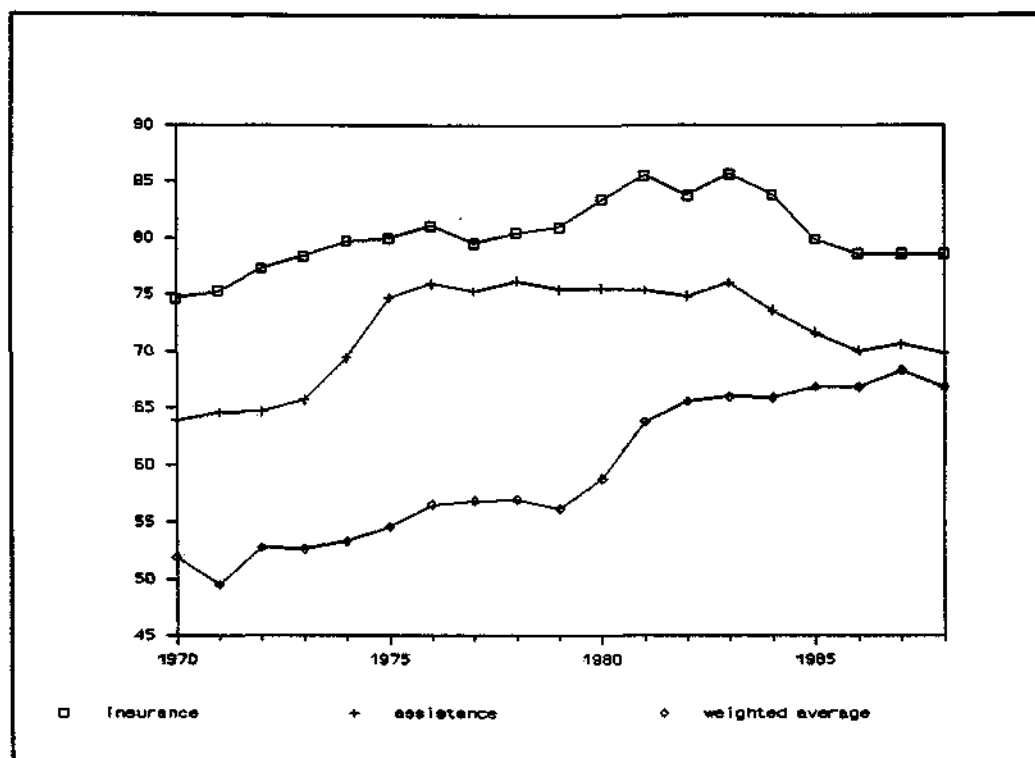


Figure 6 : Macro-economic replacement ratios for the Netherlands, 1975-1987  
Data sources: Chan-Lee *et al.*, 1987, p. 128, and Ministerie van Sociale Zaken en Werkgelegenheid, 1989 and CBS, 1987.

According to both measures, the macroeconomic replacement ratio has declined during the eighties. The sharp fall of Chan-Lee's replacement ratio after 1980, shows the efforts of the Dutch government to make savings on the outlays for unemployment insurance, for example by shortening the maximum duration of unemployment provision benefits (see Section 3.2) and the suspension of the indexation of unemployment assistance benefits. The fall in our own measure of the macroeconomic replacement ratio in 1985 reflects the reduction in the statutory replacement ratio of unemployment insurance from 80 to 70 percent.

Turning to microeconomic replacement ratios for the Netherlands, Chan-Lee *et al.* (1987, p. 127) give *net* hypothetical replacement ratios, for a married unemployed





**Figure 7 : Net replacement ratios for the Netherlands, 1970-1988**

Data source : Ministry of Economic Affairs, unpublished.

worker who earned the average wage, with two children and a non-working spouse. After one month of unemployment (July 1982) and thirteen months of unemployment (July 1983), the replacement ratios are 88 and 82 percent respectively.

Figure 7 shows three series of the net replacement ratio, for an adult, married manufacturing worker with two children and a non-working spouse, who earned the net average wage. The upper line gives the replacement ratio of unemployment insurance benefits, the middle line of unemployment assistance benefits. Until 1983, these series show an upward trend. However, in 1984 and 1985 a series of severe cuts in Dutch unemployment insurance took place, such as a 3 percent reduction in benefits in 1984, and the fall in the statutory unemployment insurance replacement ratio from 80 to 70 percent in 1985 (see also De Jong *et al.*, (1990, pp. 33-34). The bottom line in Figure 7 gives a weighted average replacement ratio for the unemployed in the Netherlands: the unemployment insurance and assistance replacement ratio are weighted with the fraction of the unemployed receiving those benefits, while we also take into account that a proportion of the Dutch unemployed is not covered. This weighted average replacement ratio gives an indication of the 'average' disincentive effect of unemployment benefits in the Netherlands. The increase in this replacement ratio between 1979 and 1983 is caused by the rise in the unemployment insurance replacement ratio and the sharp increase in the coverage of unemployment assistance in those years. Note that the reduction in the unemployment

insurance and assistance replacement ratio between 1983 and 1986 did not lead to a fall in the average replacement ratio, since the coverage of unemployment assistance increased strongly in those years.

Information on the replacement of wages by unemployment benefits in the Netherlands in 1987 (Ministerie van Sociale Zaken en Werkgelegenheid, 1989, pp. 128-131), shows that the net replacement ratio for a worker who earned the average wage is between 77 and 80 percent in the first year of unemployment. After two years of unemployment, the (unemployment assistance) replacement ratio depends on family situation: for a married worker without children it is still around 75 percent, but for a single worker without children it falls to 55 percent.

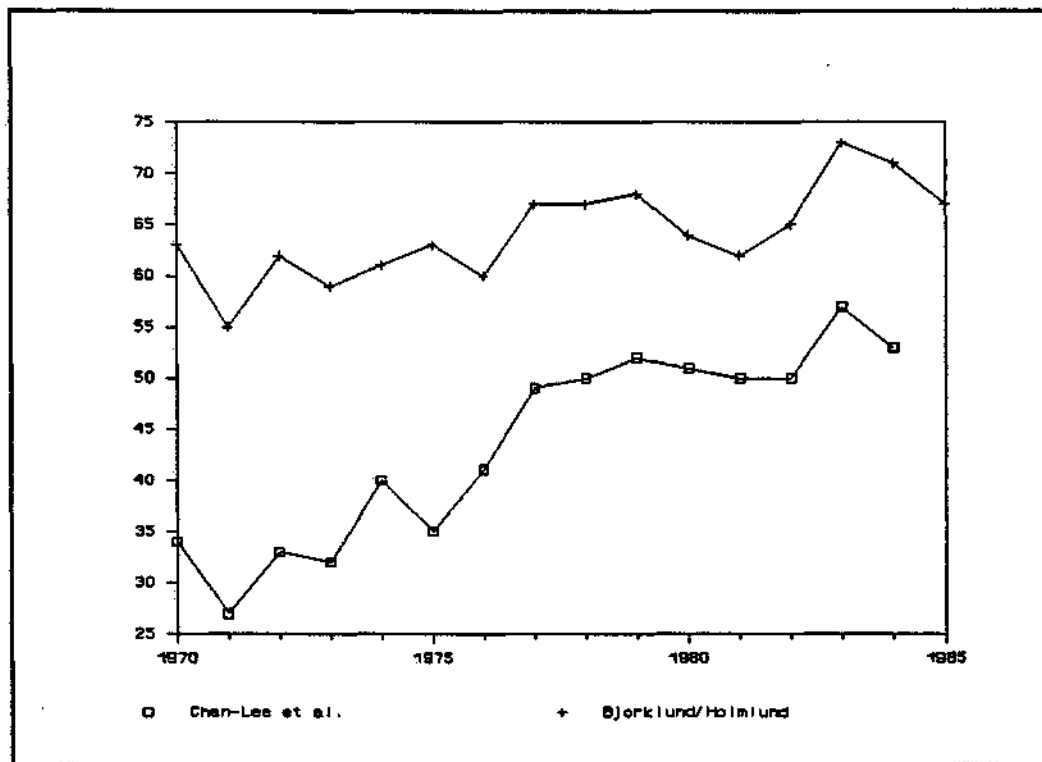


Figure 8 : Replacement ratios for Sweden, 1970-1985

Data sources : Chan-Lee *et al.*, 1987, p. 128 and Burtless, 1987, p. 134.

Figure 9 shows two time-series of the replacement ratio in Sweden. The replacement ratio of Chan-Lee *et al.* is calculated like the one for the Netherlands. The time-series of Björklund and Holmlund shows "average replacement rates among insured, male blue-collar workers who experience an unemployment spell of exactly three months" (Burtless, 1987, p. 158, see also Björklund and Holmlund, 1991, pp. 132-133). Both replacement ratios show an upward trend, especially after 1971. Remember that the time-series of Chan-Lee *et al.*, due to its definition, not only reflects the rise in unemployment benefit levels relative to wages, but also the increase in the length of the maximum benefit

periods, the rise in the overall coverage of unemployment insurance in Sweden and the introduction of unemployment assistance.

Information on net, microeconomic replacement ratios in Sweden in 1980 (see Burtless, 1987, p. 132) shows that the flat-rate unemployment insurance system results in a sharp fall of the replacement ratio, when earnings levels rise: for a married worker with two children who earned two-thirds of the average wage, the replacement ratio was 92 percent, at the average wage 69 percent and at twice the average wage 45 percent (see also Björklund and Holmlund (1991, p. 134), who corroborate these results for 1985). Moreover, there is a large difference between the replacement ratio in the first and the second year of unemployment in Sweden: for the same groups mentioned above, unemployment assistance offers a replacement of respectively 50, 37 and 24 percent of previous wages in the second year of unemployment. Calculations for a male, blue-collar worker with average earnings in 1985 give a replacement ratio of unemployment insurance of 75-80 percent, while it is 50-60 percent for white-collar workers in Sweden (Björklund and Holmlund, 1991, p. 133). Finally, the OECD (1991, p. 234) calculates gross replacement ratio's for a single male at average earnings for Sweden in 1989 of 85 percent for the short-term (unemployment insurance) and 39 percent for the long-term (unemployment assistance).

Figure 9 shows two time-series of the macroeconomic replacement ratio in the United Kingdom. The replacement ratio of Chan-Lee *et al.* is again computed in the same way as for Sweden and the Netherlands. Smee's replacement ratio is defined as the average compensation per unemployed person divided by a weighted average of the estimated *net* earnings of the various age, sex, and family groups in the unemployment register (see Burtless, 1987, p. 155-156), and is obviously higher than that of Chan-Lee *et al.*. According to both measures, the replacement ratio has declined in the United Kingdom since 1970.

Calculations of net microeconomic replacement ratios for hypothetical earnings levels and family situations show the effect of the flat-rate unemployment benefit system in the United Kingdom: as in Sweden, the replacement ratio falls with the level of previous earnings (see Burtless, 1989, p. 116). Dilnot and Morris (1983) calculated actual replacement ratios for a sample of employed men for selected years between 1968 and 1983. They find that, holding the population of employed constant at its 1980 distribution, replacement ratios have fallen from 87 percent in 1968 to 60 percent in 1983. For the United Kingdom, calculations of the replacement ratio in July 1987 are available (Ministerie van Sociale Zaken en Werkgelegenheid, 1989, p. 128-132). The net replacement ratio (including allowances) for a married worker with two children at an average wage is 63 percent in 1987. For a single worker, the net replacement ratio (including allowances) is 40 percent. The OECD (1991, p. 234) finds a comparable replacement ratio of 41 percent for single

males at the average wage in 1989. Characteristic for the British system is the absence of a difference between the short- and the long-term replacement ratio.

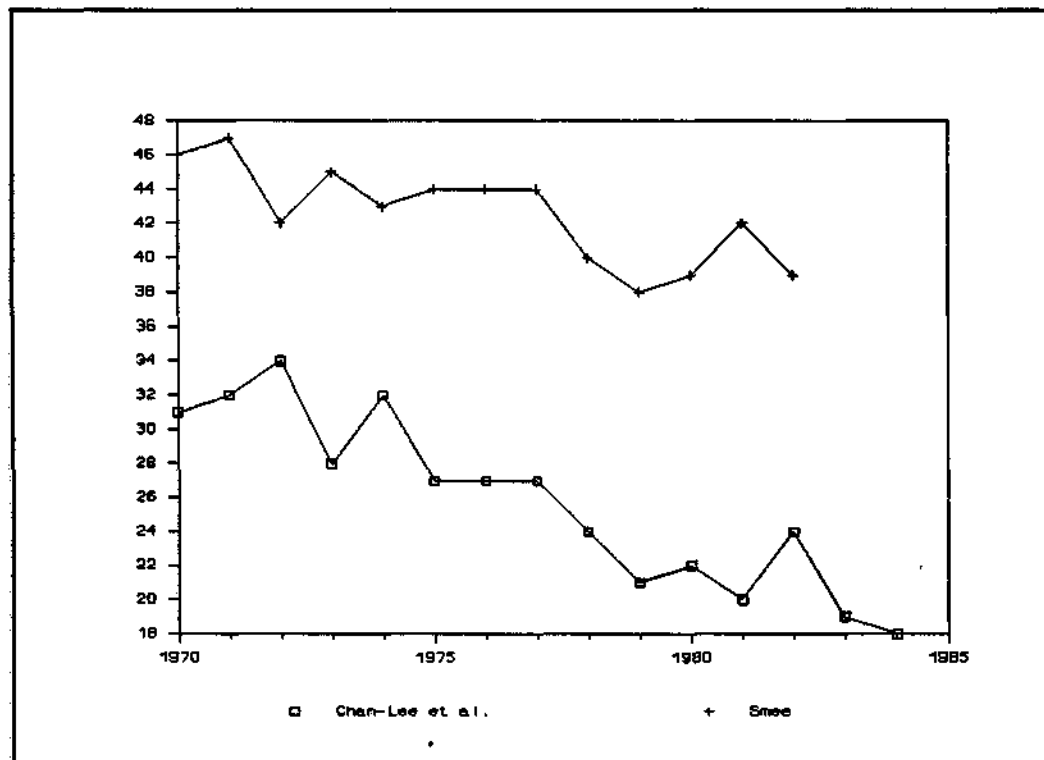


Figure 9 : Macro-economic replacement ratios for the United Kingdom, 1970-1984  
Data sources : Chan-Lee et al., 1987, p. 128 and Burtless, 1987, p. 122.

Figure 10 shows macroeconomic replacement ratios for *Germany*, calculated by Chan-Lee *et al.* (1987, p. 128) and Bruche and Reissert (see Burtless, 1987, p. 130). The measure of the replacement ratio of Chan-Lee *et al.*, calculated in the same manner as those of the other countries, shows a very erratic development which is hard to interpret. The replacement ratio, as calculated by Bruche and Reissert (defined as the average monthly unemployment benefit divided by the average net wage per employee) is slightly falling from the beginning of the eighties, which can be explained by the tightening of eligibility conditions and the reduction of the statutory benefit level.

The net, microeconomic replacement ratio in Germany, for a hypothetical married unemployed worker at average wage, with two children and non-working spouse was about seventy percent in 1982/1983 (see Chan-Lee *et al.*, 1987, p. 127). In 1987, this replacement ratio was 87 percent for the above described unemployed worker, while it was 63 percent for a single unemployed worker at average wage at the beginning of unemployment, falling to 59 percent after one year of unemployment (Ministerie van Sociale Zaken en Werkgelegenheid, 1989, pp. 128-131).

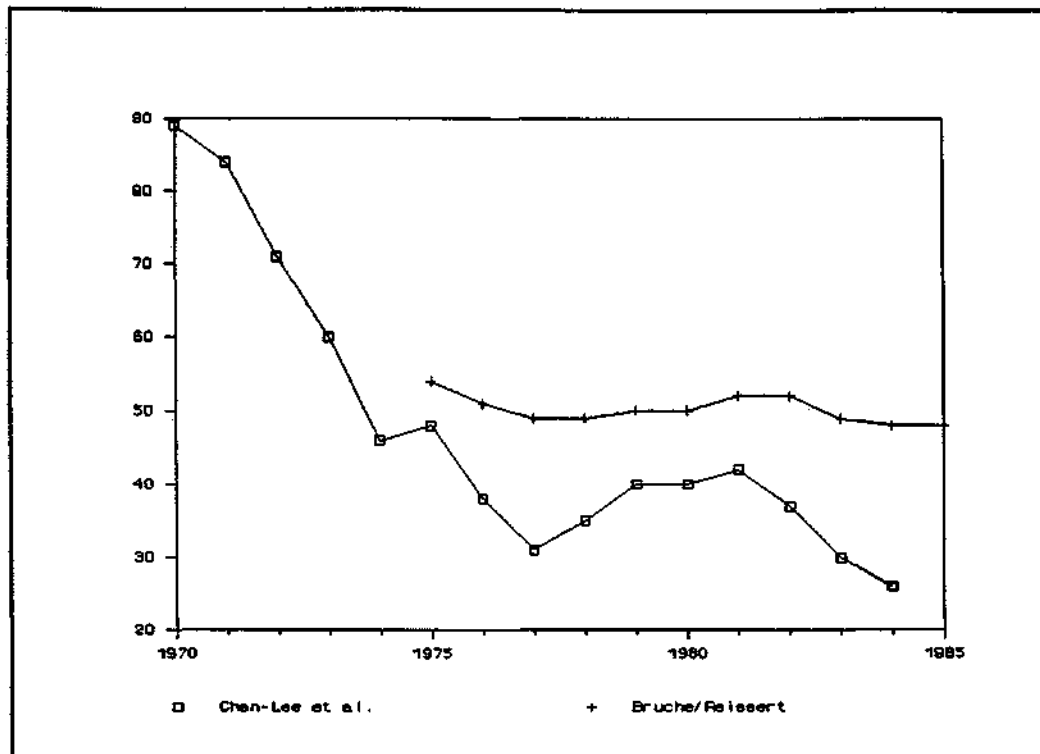


Figure 10 : Macro-economic replacement ratios for West Germany, 1970-1984

Data sources : Chan-Lee et al., 1987, p. 128 and Burtless, 1987, p. 130.

Summarizing this survey of replacement ratios in the four countries under study, we start with the United Kingdom. In this country, the replacement ratio shows a downward trend since the seventies. In the Netherlands, this development started at the beginning of the eighties. In both countries, the lengthening of unemployment durations and the accompanying fall in the average benefit level are important backgrounds to this development. Besides, in the eighties, the Dutch and British governments tried to make savings on unemployment benefits. In Germany, macro-economic replacement ratios also show a fall, but other empirical information, especially for the most recent period, does not point in the direction of a significant reduction in German replacement ratios (see Ministerie van Sociale Zaken Werkgelegenheid, 1989, p. 129). Only in Sweden, the unemployment insurance system has clearly become more generous in the past decades (see also Björklund and Holmlund, 1991, p. 134).

A comparison of the macroeconomic replacement ratios by Chan-Lee *et al.* for the four countries, shows that Sweden gives the highest 'average compensation' for unemployment, followed by the Netherlands, Germany and the United Kingdom. In 1987, the microeconomic unemployment insurance replacement ratio for a married, male worker with two children at the average wage is highest in Germany, closely followed by the Netherlands, while British replacement ratios are clearly lower. The Swedish short-term replacement ratio is of the same order of magnitude as in the Netherlands. For single

males, the replacement ratio is considerably lower in Germany and the United Kingdom, which makes Dutch and Swedish benefit levels the most generous for this group. Finally, looking at long-term (unemployment assistance) replacement ratios, the largest change takes place in Sweden, where long-term benefit levels are much smaller than those for the short-term. For the long-term unemployed, German and Dutch replacement ratios are highest.

#### 5.4 UNEMPLOYMENT INSURANCE EXPENDITURES

Before the expenditures on unemployment insurance systems are studied in more detail, we first take a quick look at the outlays on total social security in the Netherlands, the United Kingdom and Germany<sup>12</sup>. Table 10 presents these outlays as a percentage of gross domestic product. The high expenditures on social security in the Netherlands are primarily caused by high outlays on sickness, disability and unemployment benefits as compared to the United Kingdom and Germany (see Ministerie van Sociale Zaken en Werkgelegenheid, 1991, pp. 101-104). However, in the Netherlands, taxes and social security contributions on benefits are higher than in the United Kingdom and Germany. This implies that the difference in *net* expenditures on social security between the Netherlands and the other countries is smaller than indicated by Table 10. The three countries show substantial differences in the financing of social security. In the Netherlands, the government pays only 17 percent of social security expenditures, while this is 26 percent in Germany and 41 percent in the United Kingdom in 1989.

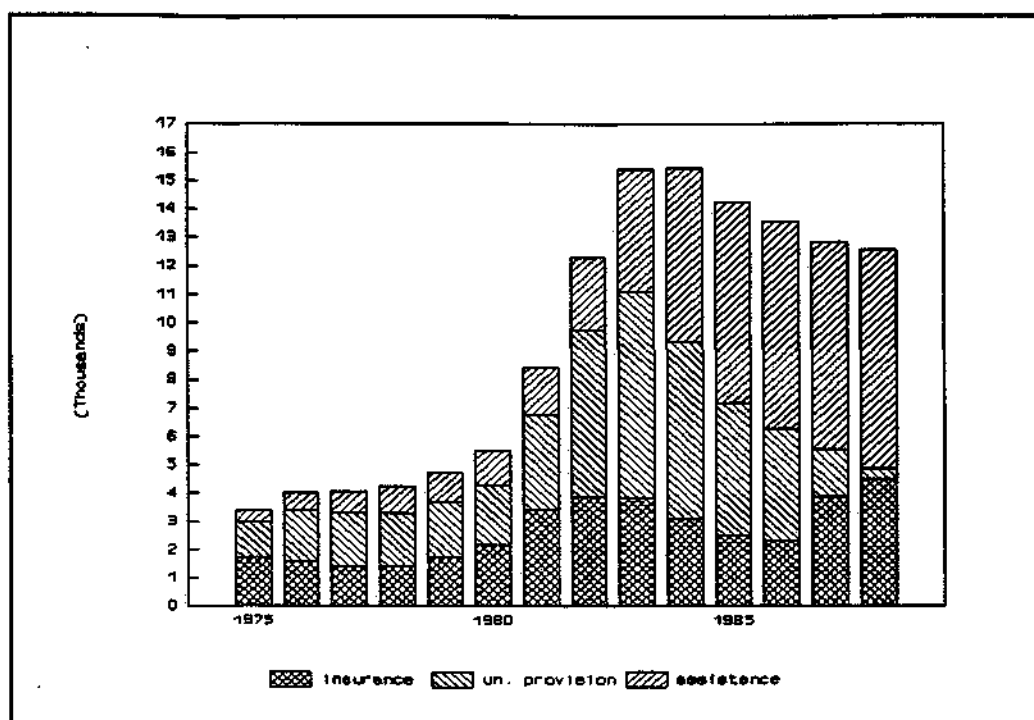
Table 10 : Gross social security outlays of the Netherlands, the United Kingdom and Germany, as a percentage of gross domestic product\*

	1970	1975	1980	1983	1985	1989
Netherlands	19.6	26.7	30.4	33.8	31.1	30.2
United Kingdom	14.3	19.7	21.5	23.9	24.4	20.6
Germany	21.5	29.7	28.7	28.8	28.2	27.3

\* Including supplementary old age pensions and administration costs.

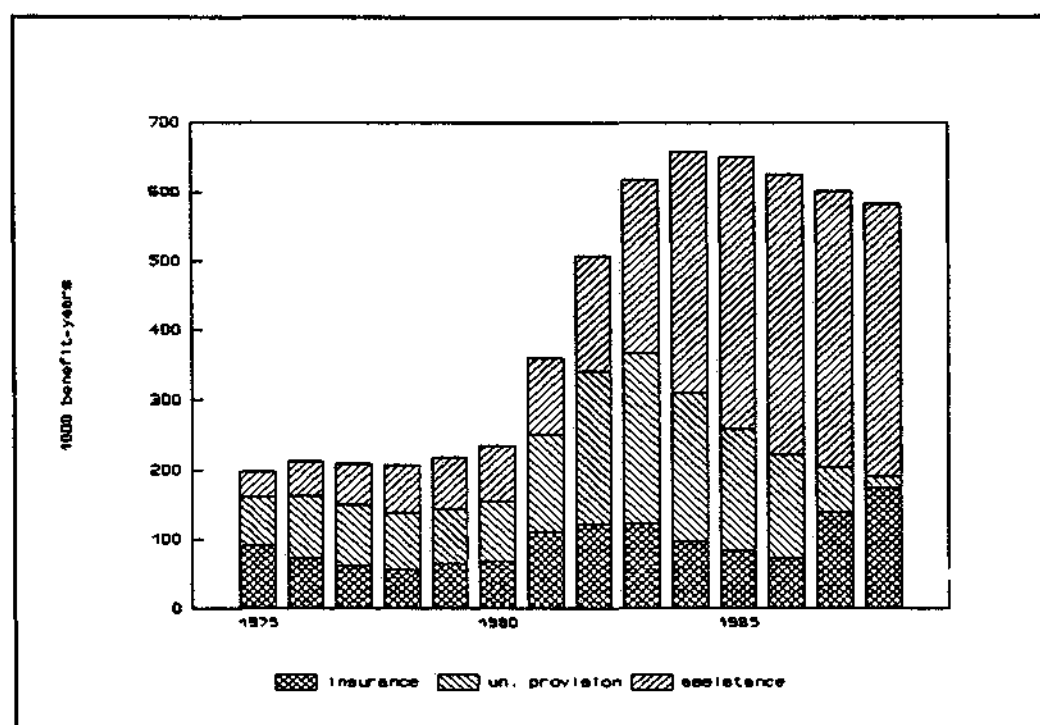
Source: Ministerie van Sociale Zaken en Werkgelegenheid, 1990, p. 159 and 1991, p. 175.

<sup>12</sup> We do not have recent information on the costs of social security in Sweden. However, according to Emerson (1988, p. 54), social expenditures were 33.4 percent of GDP in Sweden in 1981.



**Figure 11 : Expenditures on Dutch unemployment insurance (in millions of guilders), 1975-1988**

Data source : Ministerie van Sociale Zaken en Werkgelegenheid, 1989, pp. 152-158.



**Figure 13 : Number of recipients of unemployment compensation in the Netherlands, 1975-1988**

Data source : Ministerie van Sociale Zaken en Werkgelegenheid, 1989, pp. 148-152.

Figure 11 illustrates the development in the expenditures on unemployment

insurance, unemployment provision and unemployment assistance benefits, between 1975 and 1988 in the Netherlands. The outlays on unemployment insurance have increased sharply, especially between 1980 and 1984. This is entirely caused by the rise in the volume of benefit recipients in this period (see Figure 12): both the outlays and the volume of total unemployment insurance have risen with about 180 percent between 1980 and 1984. After 1984, expenditures on unemployment insurance per recipient, which had been stable since 1980, started to fall as a result of the efforts of the Dutch government to make savings on social security, and as a result of more and more people losing their unemployment benefit entitlement and having to live on unemployment assistance.

In 1989, the outlays for total unemployment insurance (including unemployment assistance) amounted to 2.8 percent of gross domestic product in the Netherlands, compared to 1.3 percent in the United Kingdom and 1.7 percent in Germany (Ministerie van Sociale Zaken en Werkgelegenheid, 1991, p. 99)<sup>13</sup>. However, note that the difference in *net* outlays on unemployment insurance between the Netherlands and the other countries will again be smaller than indicated above. The difference in outlays between the Netherlands on the one hand and the United Kingdom and Germany on the other can be partly explained by the unemployment record of the countries: in 1988, unemployment in the Netherlands was 9.2 percent of the labour force, in the United Kingdom 6.9 percent and in Germany 6.2 percent (OECD, 1991, p. 213). The outlays for unemployment insurance in the United Kingdom are particularly small, because of the low average benefit level in that country.

## 6 CONCLUSIONS

This paper starts with studying unemployment insurance as a part of the social security system. We stress the difference between social insurance -more or less based on the equivalence principle- on the one hand, and social assistance -based on the solidarity principle- on the other. In the Netherlands, Sweden, the United Kingdom and Germany, unemployment compensation is a mixture of unemployment insurance and assistance.

In these four countries, unemployment insurance covers the financial risk of unemployment, for those persons who have paid enough contributions to be eligible. The duration of payments under unemployment insurance is limited. The benefit systems of the Netherlands and Germany are most clearly based on the equivalence principle, since the

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<sup>13</sup> The OECD (1991, pp. 238-249) estimates Dutch unemployment compensation outlays in 1990 at 2.3 percent of GDP and for Sweden at 0.7 percent.



level of the unemployment benefit is related to the previous wage rate (up to a certain maximum). Moreover, in both countries, the period of benefit entitlement depends on the length of the period in which unemployment insurance contributions were paid.

**Table 11 : Summary of unemployment insurance/assistance in the Netherlands, Sweden, the United Kingdom and Germany**

	Netherlands	Sweden	United Kingdom	Germany
<b>Statutory replacement ratio*</b>	70% / --	--	--	63% / 56%
<b>Duration (weeks)</b>	26-260 (+52) / indefinite	60 / 30	52 / indefinite	52 / indefinite
<b>Coverage (1984)</b>	0.41 / 0.43	0.87	0.32 / 0.58	0.41 / 0.29
<b>Replacement ratio (1987)**</b>	75-80 %	85% / 39%	63 %	87 %
<b>Outlays (percentage of GDP, 1989)</b>	2.8 %	0.7 %***	1.3 %	1.7 %

\* Figures before the slash refer to unemployment insurance, after the slash to unemployment assistance.

\*\* Microeconomic replacement ratio, calculated for a married worker at average wage with two children in 1987 (Ministerie van Sociale Zaken en Werkgelegenheid, 1989, pp. 128-131). For Sweden, OECD (1991, p. 234) figures, for a single male in 1989.

\*\*\* This figure refers to 1990 (see OECD, 1991, pp. 238-249)

Unemployed persons, who exhaust their benefit entitlement or who do not have a sufficient contribution record to be eligible for unemployment benefits, may be entitled to unemployment assistance. With the exception of Germany, unemployment assistance pays flat-rate benefits. These benefits are meant for unemployed people who are not able to provide for their own means of living and are usually means-tested (except in Sweden). In the Netherlands, the United Kingdom and Germany, unemployment assistance pays benefits for an indefinite period.

In the section on empirical aspects of the unemployment insurance systems in the four countries, we argue that the 'generosity' of an unemployment insurance system not only depends on the level of benefits, but also on the coverage of unemployment insurance. Table 11 gives a summary of the main results of the empirical section. In Germany, the coverage of the unemployment insurance system is lower than in the other

countries, which may be caused by the contribution requirement of German unemployment assistance. A comparison of microeconomic replacement ratios for married workers at average wage with two children shows that unemployment benefits are relatively highest in Germany, followed by Sweden, the Netherlands and, at a distance, the United Kingdom. For single persons, Swedish and Dutch replacement ratios are highest. Note that the fall in the replacement ratio after the first year of unemployment is very large in Sweden.

Summarizing the differences in the generosity of the unemployment insurance systems in the four countries under study, the United Kingdom has the least generous system. Germany has slightly higher unemployment benefits than the Netherlands for married workers, but the replacement ratio is lower for singles and German unemployment insurance covers less unemployed than in the Netherlands. In Sweden, the coverage of the unemployment insurance system is high and short-term benefits are probably as generous as they are in the Netherlands. However, long-term Swedish benefits are lower than in the Netherlands, and the Swedish benefit system is supported by effective active labour market policies, which prevent people from drawing benefits for a long time.

## REFERENCES

- Atkinson, A.B. (1989), *Poverty and Social Security*, Hertfordshire: Harvester Wheatsheaf.
- Björklund, A., and Holmlund, B. (1989), 'Effects of Extended Unemployment Compensation in Sweden', in *The Political Economy of Social Security*, eds. B.A. Gustafson and N. A. Klevmarken, Amsterdam: North-Holland, pp. 165-183.
- Björklund, A., and Holmlund, B. (1991), 'The Economics of Unemployment Insurance: The Case of Sweden', in *Labour Market Policy and Unemployment Insurance*, eds. A. Björklund, R. Haveman, R. Hollister and B. Holmlund, Oxford: Clarendon Press, pp. 101-178.
- Burtless, G. (1987), 'Jobless Pay and High European Unemployment', in *Barriers to European Growth: A Transatlantic View*, eds. R.Z. Lawrence and C.L. Schultze, Washington: The Brookings Institution.
- Centraal Bureau voor de Statistiek, *Sociale Maandstatistiek* (until 1983) and *Sociaal-economische Maandstatistiek* (after 1983), 's Gravenhage: Staatsuitgeverij.
- Centraal Bureau voor de Statistiek (CBS, 1987), *Nationale Rekeningen in Tijdreeksen*, Voorburg: CBS.
- Centraal Bureau voor de Statistiek (1989), *Negentig jaren statistiek in tijdreeksen, 1899-1989*, 's Gravenhage: Staatsuitgeverij.
- Centraal Planbureau (1989), *Centraal Economisch Plan 1989*, 's Gravenhage: CPB.
- Chan-Lee, J.H., Coe, D.T., and Prywes, M. (1987), 'Microeconomic Changes and Macroeconomic Wage Disinflation in the 1980s', *OECD Economic Studies*, 8, 121-157.
- Commission of the European Communities (1988), *Comparative Tables of the Social Security Schemes in the Member States of the European Communities*, 14th edition (Situation at 1 July 1986), Luxembourg: Office for Official Publications of the European Communities.
- Dilnot, A.W., and Morris, C.N. (1983), 'Private Costs and Benefits of Unemployment: Measuring Replacement Rates', *Oxford Economic Papers*, 35, 321-340.

Douben, N.H. (1988), 'Sociale zekerheidsstelsels nader beschouwd', *Maandschrift Economie*, 52, 327-339.

Emerson, M. (1988), *What Model for Europe?*, Cambridge (Mass.): MIT Press.

Heuvel, F.G. van den (1988), 'Ontwikkelingen in het Nederlandse stelsel van sociale zekerheid gekarakteriseerd en bekritiseerd', *Maandschrift Economie*, 52, 349-362.

Jong, Ph. de, Herweijer, M., and Wildt, J. de (1990), *Form and Reform of the Dutch Social Security System*, Ministry of Social Affairs and Employment, Deventer: Kluwer.

Ministerie van Sociale Zaken en Werkgelegenheid (1989), *Financiële Nota Sociale Zekerheid 1990*, 's Gravenhage: SDU.

Ministerie van Sociale Zaken en Werkgelegenheid (1990), *Nota Sociale Zekerheid 1991*, 's Gravenhage: SDU.

Ministerie van Sociale Zaken en Werkgelegenheid (1991), *Nota Sociale Zekerheid 1992*, 's Gravenhage: SDU.

Mulder, C.B., and Schaik, A.B.T.M. van (1989), 'Een nieuwe kijk op structuurwerkloosheid', Research Memorandum 414, University of Brabant, Dept. of Economics.

Noordam, F.M. (1988), *De Werkloosheidswet: De rechten en verplichtingen van de werkloze werknemer*, Sociaal- en arbeidsrechtelijke reeks nr. 22, Deventer: Kluwer.

Organisation for Economic Co-operation and Development (1984), *High Unemployment: A Challenge for Income Support Policies*, Paris: OECD.

Organisation for Economic Co-operation and Development (OECD, 1988), *Employment Outlook*, Paris: OECD.

Organisation for Economic Co-operation and Development (1989), *Economies in Transition, Structural Adjustment in OECD Countries*, Paris: OECD.

Organisation for Economic Co-operation and Development (OECD, 1991), *Employment Outlook*, Paris: OECD.

Ours, J.C. van (1991), 'The Efficiency of the Dutch Labour Market in Matching Unemployment and Vacancies', *De Economist*, 139, 358-378.

Pierik, J.B.M. (1989), 'Van Bodemvoorziening naar Basisinkomen?', *Economisch Statistische Berichten*, 74, 502-506.

Riphagen, J. (1989), 'Loonderving in verband met werkloosheid', in *Kluwer Schets van het Sociaal zekerheidsrecht*, eds. A.Ph.C.M. Jaspers and J. Riphagen, tweede druk, Deventer: Kluwer, pp. 105-175.

Springer, K.A., Vijlbrief, J.A., and Compaijen B. (1988), 'Werkgelegenheid, werkloosheid en sociale zekerheid', OSA-werkdocument W 51, 's Gravenhage: Organisatie voor Strategisch Arbeidsmarktonderzoek.

Terwan, K. (1990), 'Inkomens van jongeren: naar een geïntegreerd beleid', *Economisch Statistische Berichten*, 75, 108-111.

Veldkamp, G.M.J. (1978), *Inleiding tot de sociale zekerheid en de toepassing ervan in Nederland en België; Deel I: Karakter en Geschiedenis*, Deventer: Kluwer.

Veldkamp, G.M.J. (1984), *Schets van de leer van de sociale zekerheid*, Deventer.

Vijlbrief, J.A. (1992), *Unemployment Insurance and the Dutch Labour Market*, forthcoming.

Vijlbrief, J.A. and Wijngaert, R.F. van de (1992), 'Unions, Wage Formation, and Linked Unemployment Benefits', *Tinbergen Institute Research Bulletin*, 15-35.

Voorlichtingscentrum Sociale Verzekering (1990), *De Kleine Gids voor de Nederlandse Sociale Zekerheid 1990*, Deventer: Kluwer.

Wetenschappelijke Raad voor het Regeringsbeleid (1985), *Waarborgen voor zekerheid: een nieuw sociaal stelsel in hoofdlijnen*, 's Gravenhage.

## ABSTRACT

Most developed countries have a system, which protects workers against the financial risk of unemployment. This paper describes the unemployment insurance systems in four countries: the Netherlands, Sweden, the United Kingdom and Germany. In these countries, unemployment compensation consists of two parts: unemployment insurance, with a contribution requirement and a limited duration of benefit payments; unemployment assistance, compensating people, who are unable to provide for their own means of living, for an indefinite time period.

In the Netherlands, the coverage of the unemployed by unemployment assistance has increased markedly since the beginning of the eighties. Although the replacement ratios of Dutch unemployment insurance and assistance showed a steady increase from 1970 until 1983, this trend was reversed by the cuts in benefits between 1983 and 1986. Despite these reductions in benefit levels, the 'weighted average replacement ratio', that takes the increasing coverage of the unemployed into account, did not fall after 1983.

The generosity of the unemployment insurance systems, measured by the level of benefits and the coverage of the system, is much lower in the United Kingdom than in the other countries. Comparing the Dutch and the Swedish system is especially interesting, since the latter is often considered to be an example for the Netherlands. Most striking differences between the two countries are the large drop in the benefit level in Sweden after one year of unemployment, and the extensive use of active labour market policies to prevent long-term unemployment in this country.

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